



NASA Procedural Requirements

| NODIS Library | Program Management(8000s) | Search |

COMPLIANCE IS MANDATORY

NPR 8580.1

Effective Date: November 26, 2001
Expiration Date: November 26, 2008

[Printable Format \(PDF\)](#)

Subject: Implementing The National Environmental Policy Act And Executive Order 12114

Responsible Office: Environmental Management Division

| TOC | Preface | Chp1 | Chp2 | Chp3 | Chp4 | Chp5 | Chp6 | Chp7 | Chp8 | Chp9 | Chp10 | Chp11 | Chp12 | Chp13 | AppdxA | AppdxB | AppdxC | AppdxD | AppdxE | AppdxF | AppdxG | AppdxH | AppdxI | AppdxJ | AppdxK | AppdxL | ALL |

CHAPTER 3. NASA National Environmental Policy Act Overview

3.1 Introduction

3.1.1 NASA policy and regulations implementing NEPA, related authorities, and Executive Order (EO) 12114 appear at 14 CFR Part 1216 Subparts 1216.1 and 1216.3. NASA's regulations comply with the requirements of CEQ regulations, describing the types of NASA actions and activities subject to the procedural requirements of NEPA, and implement EO 12114. This NPR is internal NASA guidance for compliance with NEPA policy and regulations.

3.1.2 NASA NEPA and other environmental planning documents should be clearly written using plain English, and recognizing the importance of both the metric and British systems of measurement. All measurements should be provided in metric units with British system equivalents in parentheses. A list of common conversions is provided in Appendix A.

3.2 Applicability to NASA Activities

3.2.1 NASA actions generally fall within one of the following three categories:

- a. Science, Aeronautics, and Technology (SAT), which encompasses research and development activities directed toward attaining the objectives of a specific mission, project, or program. This category includes NASA aeronautics and space program elements, such as the development of new propulsion systems, spacecraft development and operations, flight projects, science instrument development and operations, and space transportation systems.
- b. Mission Support (MS), which includes four subcategories: (1) Research and Program Management (Personnel and related costs, Travel, and Research Operations Support), (2) Construction of Facilities (Discrete projects, minor revitalization and construction, facility planning and design; and environmental compliance); (3) Safety, Reliability, and Quality Assurance, and (4) Space Communication Services.
- c. Human Space Flight (HSF), which encompasses activities similar in scope to SAT activities but that primarily focus on human space flight. Examples include the national fleet of Space Shuttle orbiters, the main engines, launch sites, mission operations, initial spares, production tooling and supporting activities, launch operations, and tracking and data acquisition.

3.2.2 Although infrequent, NASA may prepare special proposals for legislation involving new or altered Agency missions. These activities are addressed in NASA's regulations at 14 CFR §1216.315 (for more detailed information on legislative proposals see Appendix E and section 7.4 of this NPR).

3.2.3 In the vast majority of instances, the principal responsibility for an action lies with a specific NASA Center or Centers as traditionally defined. For those actions in which principal responsibility has not been assigned to a specific Center or Centers, NASA Headquarters (HQ) shall be the responsible Center.

3.3 Management-Level Roles and Responsibilities

3.3.1 NASA NEPA policies and procedures designate roles and responsibilities for certain management positions (see Appendix E). Sections 3.3 through 3.7 of this NPR highlight these senior-level roles and responsibilities.

3.3.1.1 The Assistant Administrator for Institutional and Corporate Management, successor, or designee, is responsible for developing NASA's NEPA regulations; ensuring that environmental factors are properly considered in all NASA planning and decisionmaking; monitoring to ensure that the regulations are achieving their purposes; advising line management and informing NASA employees of the technical and managerial requirements of environmental analysis, available expertise inside and outside of NASA, and with the assistance of the Office of the General Counsel, relevant legal developments; and consolidating and transmitting NASA comments on EIS's and other NEPA documentation prepared by other Federal agencies.

3.3.1.2 The NASA Headquarters/Environmental Management Division (HQ/EMD) functions under the authority of the AA for Institutional and Corporate Management and is delegated the responsibility of implementing the NEPA functions. The HQ/EMD also provides advice and consultation to all other NASA entities in implementing their assigned responsibilities under NEPA. HQ/EMD, in coordination with appropriate HQ and Center offices, will review this NPR biennially and issue interim guidance as appropriate.

3.3.1.3 NASA activities are implemented through specific Sponsoring Entities, such as NASA HQ, NASA Centers (including Component Facilities), Strategic Enterprises, Program, or Staff Offices. The lead officials for these entities, the Officials-in-Charge, have the primary responsibility for ensuring that the NEPA process is integrated into their organizations' project planning activities before the Sponsoring Entities implement activities and actions. The Sponsoring Entities also are responsible for ensuring that records management requirements are met. NEPA functions are not performed directly by lead officials. Each NASA Center has an Environmental Management Office (EMO), which is usually delegated the responsibility for implementing NEPA. The EMO performs the primary or working-level functions of the NEPA process, such as evaluating proposed activities, developing and/or reviewing and approving required documentation, advising project managers, and signing environmental decision documents on projects and programs having little or no environmental impact. Since the EMO provides essential functional support to the Sponsoring Entity, and because its implementation responsibilities are delegated, the term Sponsoring Entity will be used throughout this NPR to include the implementing NEPA organization at all NASA facilities. In cases where the Sponsoring Entity needs to be further defined, it will be specifically noted. For proposals made by tenants or entities using services or facilities at a NASA Center or Component Facility, the Sponsoring Entity shall be that Center or, if such authority is delegated to the Component Facility, the Component Facility.

3.3.1.4 In the case of the Jet Propulsion Laboratory (JPL), the Sponsoring Entity shall be the NASA HQ Office of Space Science (OSS). NASA OSS personnel may call upon and use the technical resources available through the JPL operating contractor.

3.3.1.5 For other Federally Funded Research and Development Centers (FFRDC), the Sponsoring Entity is the NASA Center with whom the FFRDC has a contract.

3.3.1.6 The Assistant Administrator for the Office of Legislative Affairs is responsible for ensuring that legislative EIS's (see section 7.4) accompany, in appropriate instances, NASA recommendations or reports on proposals for legislation submitted to Congress.

3.3.2 Specific responsibilities for the NEPA process and documentation are discussed in chapters 4, 5, and 6. Additional responsibilities within special NEPA topics are discussed in chapter 7. Appendix B provides a glossary of terms for easy reference.

3.4 Timing NEPA Compliance with Project Planning

3.4.1 CEQ regulations state that agencies "... shall integrate the NEPA process with other planning at the earliest possible time to ensure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. . ." (40 CFR §1501.2).

3.4.2 The EA or EIS must be completed before project planning reaches a point where NASA's ability to implement reasonable alternatives is precluded (i.e., before hard decisions are made regarding project implementation). Environmental planning factors should be integrated into the conceptual stage of project planning when a broad range of alternative approaches is being considered. In the project development stage, decisions are made that affect the detailed planning stage. At a minimum, an environmental evaluation should be prepared in the project development stage (see section 3.7.4.3). During this stage, the responsible project manager will have the greatest latitude in making adjustments in the plan to mitigate or avoid important environmental sensitivities and planning the balance of the NEPA process to avoid unpleasant surprises later in the project cycle which may have schedule and/or cost implications.

3.4.2.1 An EA or an EIS is normally completed during the detailed planning phase. In this phase, reasonable alternatives are analyzed and hard decisions on how to proceed with a project are being made. The scope and intensity of analyses of the reasonable alternatives should be consistent with the purpose of an EA or EIS.

3.4.2.2 Before completing the NEPA process, no NASA official can take an action that would (1) affect the environment or (2) limit the choice of reasonable alternatives. Accommodating environmental requirements early in project planning ultimately conserves both budget and schedule. Table 3-1 provides the critical environmental decision points for the NEPA process.

Table 3-1. Environmental Decision Points¹

Critical Timing Points				
Mission Support				
Documentation	Process Start			
Environmental Evaluation/REC (see chapter 4)	Initial Concept Proposal	PRD or Concept or Service Request Submission, as appropriate	Project Definition and Preliminary Concept Funding	Project Definition and Preliminary Concept Funding
EA/FONSI (if appropriate) (see chapter 5)	Draft EA: Starts at Preliminary Design	By 100% Design Review	Before spending 10% of Development/Construction Budget or PDR, whichever comes first ³	Before spending 10% of Development/Construction Budget or PDR, whichever comes first ³
EIS/ROD (no sooner than 30 days after Final EIS) (see chapter 6)	Draft EIS: Start at Project/Budget Approval	Final EIS: By 100% Design Review	Final EIS: Before spending 10% of Development/Construction Budget or before final decisions are made on Design, Development, Test, and Evaluation, whichever comes first 3. ROD: After CDR Final EIS: Before spending 10% of Development/Construction Budget or before final decisions are made on Design, Development, Test, and Evaluation, whichever comes first 3. ROD: After CDR 1 The NEPA process must be completed no later than the activities associated with the category. 2 Depending on contractual requirement for design review steps. 3 Development/construction budget includes budget for launch.	Project Definition and Preliminary Concept Funding

CEQ - Critical Design Review...		DOE - Preliminary Design Review...	
EA = Environmental Assessment	REC = Record of Environmental Consideration		
EIS = Environmental Impact Statement	ROD =Record of Decision		
FONSI =Finding Of No Significant Impact	PRD = Project Requirements Document		

3.4.3 To decide if a NASA, Federal, non-Federal entity, or contractor activity related to a proposed Federal action may be approved or implemented before completing the NEPA process, the Sponsoring Entity must determine that--
 a. The activity will not have an adverse environmental impact (e.g., the purchase of land where use will remain unchanged). Normally, purchases of long lead time items have no adverse environmental impact. However, site preparation or construction at or near a proposed site normally will have an adverse environmental impact; and b. The expenditure is minimal. To be minimal, the expenditure must-- (1) Be only the amount prudently necessary to maintain project schedule (appropriate cancellation clauses are recommended) (2) Not compromise the objectivity of NASA's environmental review. 3.4.4 It is ordinarily presumed that, except in unusual circumstances, expenditures up to 10 percent of the proposed project's or activity's cost will not compromise the objectivity of NASA's review and decisionmaking. Whether or not expenditures above that level would compromise the Agency's decisionmaking should be considered on a case-by-case basis, taking all relevant circumstances into account. For space flight projects, the relevant total cost includes those related to planning, design, construction, and launch. 3.4.5 Where a programmatic NEPA document is being prepared, expenditures should normally not exceed 10 percent for any individual mission or project within the program (see section 7.6 for more information). 3.5 Public Involvement 3.5.1 Public involvement is one of the key elements in any agency NEPA compliance activity and is to be encouraged. The public is broadly defined as individuals, community and private organizations, and environmental interest groups. Both CEQ and NASA regulations focus on the role of public participation in the preparation of NEPA documents. CEQ regulations (40 CFR §1506.6) require Federal agencies to make diligent efforts to involve the public in implementing their NEPA procedures. NASA regulations provide the overall framework for involving the public in the NEPA process, paralleling the requirements of CEQ regulations. 3.5.2 NASA's regulations also specify the principal contact for obtaining information about NASA's NEPA activities and identify the lead responsibilities for ensuring public involvement in the NEPA process. The following specific responsibilities apply: a. Principal contact for information on EIS's, exceptional action EA's (see section 5.5), and NASA's NEPA process is the NASA NEPA Coordinator, EMD. For all other EA's, the principal contact is the EMO. b. Lead responsibility for ensuring public participation in NASA's NEPA compliance activities lies with the Sponsoring Entity. The specific responsibility rests with the managers in charge of the individual programs and projects (and the associated NEPA requirements) within each of these major activities assisted by the EMO and the Public Affairs Office (PAO). c. For preparation of an EA or EIS, the Sponsoring Entity is responsible for maintaining a mailing list of Federal, State, and local agencies; organizations and individuals that have jurisdiction over the action, have specialized expertise, would be affected, express interest, or provide comments and concerns. This list is used in the public involvement process and is an essential part of the administrative record (see section 3.7.7). 3.5.3 It is recommended that the Sponsoring Entity coordinate with the PAO throughout the EA or EIS process. The local PAO may participate, as appropriate, in preparing EA's and EIS's to ensure that public concerns are identified and resolved. PAO participation may include reviewing draft documents; generating comments; responding to public comments; arranging public scoping or participation meetings; preparing and distributing public notices; or communicating the results of EA's--Finding Of No Significant Impact (FONSI) or Notice of Intent (NOI)--and EIS's Record of Decision (ROD). 3.6 Integrating NEPA with Other Environmental Review and Consultation Requirements 3.6.1 In accordance with CEQ regulations 40 CFR §1500.4(k), §1500.5(g), §1502.25, and §1506.4, to the extent possible, NASA uses the NEPA process to document compliance with other environmental review and consultation requirements (e.g., other Federal statutes, regulations, and EO's (see Appendix H)). NASA uses the NEPA process as the focus for integrated and balanced environmental planning for all of its proposed programs, projects, and activities. While NASA regulations specifically reference Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and EO's 11988 and 11990 (Floodplain Management, and Protection of Wetlands, respectively), several other environmental requirements exist. 3.6.2 Table 3-2 lists selected environmental authorities, and Appendix H provides additional details. 3.6.3 It is important to understand early in project planning exactly what environmental statutes, regulations, and EO's apply to the proposed activity. Just as NEPA compliance can be a critical path item to implementing a project, one or more of these additional review requirements can become a critical path item to completing the NEPA process. For example, a proposed project that could adversely impact a structure on the National Register of Historic Places or the nesting habitat of a threatened or endangered species will require NASA to initiate consultation and review with the State Historic Preservation Officer or the U.S. Fish and Wildlife Service (or National Marine Fisheries Service), respectively. Normally, without resolving such substantive issues, it will be difficult, if not impossible, to determine whether there will be significant effects to the quality of the human environment.

Table 3-2. Summary of Consultation Requirements

Statute/Executive Order Title	General Requirements	Specific Implications for Implementing the NEPA Process	Consultation Requirements	Estimated Time Required for Consultation and Compliance
EO 11514 (Amended by EO 11991) Protection and Enhancement of Environmental Quality, March 1970	Requires Federal agencies to comply with CEQ regulations implementing the procedural provisions of NEPA	Appropriate NEPA documentation must be prepared	As appropriate	As appropriate
Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.)	Identifies species endangered and threatened with extinction. Restricts actions that may harm these species or their habitat	If no previous NEPA documentation exists for the area of the prospective site, a biological survey and assessment may be required and included in the NEPA documentation to determine the potential presence of any species listed as endangered or threatened	Regional Director-U.S. Fish and Wildlife Service; Regional Director-National Marine Fisheries Service	Initial consultation typically 30 to 45 days; field surveys, if required, can extend in excess of 1 year to resolve possible seasonal issues
Fish and Wildlife Coordination Act (16 U.S.C. §661-666c)	Requires Federal agencies to consult with the U.S. Fish and Wildlife Service (and corresponding State agencies) whenever an agency plans to conduct an activity involving the impoundment, diversion, deepening, control, or	Requirements would have to be considered during the environmental impact review process if construction could impact any natural surface water	Regional Director-U.S. Fish and Wildlife Service; respective State fish and wildlife agencies	Initial consultation typically 30 to 45 days; field surveys, if required, can extend in excess of 1 year to resolve

		modification of a body of water	bodies		possible seasonal issues
	Archeological and Historic Preservation Act of 1974 (16 U.S.C. §469-469c); National Historic Preservation Act of 1966, as amended (16 U.S.C. §470-470t)	Federal agencies must adopt measures, when practical, to mitigate adverse effects on any structure or object eligible for inclusion in the National Register of Historic Places	If no previous NEPA documentation exists for the area of the prospective site, a literature and records survey must be conducted to determine the potential for the presence of any properties that could qualify for listing as an historic site	Advisory Council on Historic Preservation, respective State Historic Preservation Officers; other individuals and organizations with historical and cultural expertise	Initial consultation typically 30 to 45 days; additional literature and field surveys, if required, can extend several months depending on nature and size of area of interest
	Native American Graves Protection and Repatriation Act (25 U.S.C. §3001 - 3013)	Restricts disturbance of potential Native American burial grounds or other areas of cultural patrimony	If no previous NEPA documentation exists for the area of the prospective site, a literature and records survey must be conducted to determine the potential for the presence of any restricted properties	Respective State Historic Preservation Officers; respective local or regional Native American Historic Preservation Councils	Initial consultation typically 30 to 45 days; additional literature and field surveys, if required, can extend several months depending on nature and size of area of interest
	EO 11593, Protection and Enhancement of the Cultural Environment, May 1971	Mandates that Federal agencies strictly comply with the requirements of the National Historic Preservation Act of 1966, the Historic Sites Act of 1935, and the Antiquities Act of 1906	If no previous NEPA documentation exists for the area of the prospective site, a literature and records survey must be conducted to determine the potential for the presence of any properties that could qualify for listing as an historic site	Advisory Council on Historic Preservation, respective State Historic Preservation Officers; other individuals and organizations with historical and cultural expertise	Initial consultation typically 30 to 45 days; additional literature and field surveys, if required, can extend several months depending on nature and size of area of interest
	Clean Water Act (33 U.S.C. §1251-1376 et seq.); Oil Pollution Control Act of 1990 (33 U.S.C. §2701 et seq.)	Controls the siting and permitting of wastewater discharges to the waters of the United States including jurisdictional wetlands	Siting requirements may have to be considered if a facility will discharge contaminated wastewater to existing surface water bodies	U.S. EPA, respective State Clean Water Act authorized agency	Specific consultation requirements dependent on applicable regulations
	Noise Pollution and Abatement Act (42 U.S.C. §7641)	All Federal agencies are required to comply with Federal, State, and local requirements respecting control and abatement of environmental noise to the same extent that any private person is subject to such requirements. NASA engine testing, launches and similar proposal activities have been excluded from this Act	Requirements would have to be considered during the environmental impact review process to determine if construction site and activities fall under jurisdiction of any Federal, State, or local regulation regarding the control of environmental noise	Specific consultation requirements dependent on applicable regulations or ordinances	Specific consultation requirements dependent on applicable regulations or ordinances
	Clean Air Act (42 U.S.C. §7401 et seq.)	Establishes and enforces national air quality standards, requires Federal actions to conform to any State air quality implementation plan approved or promulgated under Section 110 of the Act	Consultation may be required to assess existence and applicability of respective State implementation plan	U.S. EPA, respective State Clean Air Act authorized agency	Specific consultation requirements dependent on applicable regulations
	Pollution Prevention Act of 1990 (42 U.S.C. §13101-13109)	Anyone required to submit an annual toxic chemical release form under Superfund Amendments and Reauthorization Act (SARA) Section 313 must also include with each filing a report on hazardous waste source reduction and recycling	Probably no impact on EA or EIS process; pollution prevention considerations must be included in facility design and operating plans	None	None
	EO 12898, Federal Actions to Address Environmental Justice Part	Federal agencies shall make achieving environmental justice part	Requirements would have to be considered during	No specific consultations required	None

Justice in Minority Populations and Low-Income Populations, February 16, 1994	or its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its activities on minority and low-income populations	the environmental impact review process if programs, policies, and activities could impact any minority or low-income populations		
EO 12843, Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances, April 1993	Federal agencies are required, to the extent practical, to comply with Clean Air Act requirements regarding stratospheric ozone protection; maximize use of safe alternatives to and evaluate present and future uses of ozone-depleting substances	Requirements would have to be considered during the environmental impact review process if construction or operation involved use of ozone-depleting substances	No specific consultations required	None
EO 11738, Providing for Administration of the CAA and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants or Loans, September 1973	Prohibits Federal agencies from undertaking procurements with any facilities that have been convicted of an offense under the Clean Air Act or the Water Pollution Control Act	Probably no impact on EA or EIS process; would impact facility design and operating plans	None	None
Farmland Protection Policy Act (7 U.S.C. §4201 et seq.)	Major Federal actions must be reviewed to determine if any land designated either as prime or unique farmland or farmland of State or local importance will be affected	Requirements would have to be considered during the environmental impact review process if construction could impact any designated prime or unique farmland	U.S. Department of Agriculture (criteria promulgated in 7 CFR §658), and respective State agriculture agencies	Initial consultation typically 30 to 45 days
Wild and Scenic Rivers Act of 1965 (16 U.S.C. §1271 et seq.); Wilderness Act (16 U.S.C. §1131 et seq.)	Designated areas are protected from development or from effects of construction	Requirements would have to be considered during the environmental impact review process if construction could impact any designated wilderness area or protected river	U.S. Forest Service or Department of Interior depending on jurisdiction	Initial consultation typically 30 to 45 days
Coastal Zone Management Act of 1972 (16 U.S.C. §1451 et seq.)	Any Federal action that directly affects a coastal zone must be consistent, to the maximum extent practical, with the approved State coastal zone management program	Requirements would have to be considered during the environmental impact review process if construction could impact any coastal zone, as defined by the individual State management program	Respective State coastal zone management agencies; U.S. Fish and Wildlife Service, if Federally controlled areas involved	Initial consultation typically 45 to 60 days
EO 11988 (Amended by EO 12148) , Floodplain Management, May 1977 All construction is to be in accordance with the standards and criteria promulgated under the National Flood Insurance Program	Executive agencies are to avoid actions, to the maximum extent practicable, that may be located in or have adverse effects on floodplains	Requirements would have to be considered during the environmental impact review process if construction would be in or could impact any designated floodplain. Location in a floodplain must be avoided if a practicable alternative exists	Regional COE or State floodplain management agency may be consulted if appropriate; specific requirements promulgated at 40 CFR §6, Appendix A	Specific consultation requirements dependent on applicable requirements
EO 11990, Protection of Wetlands, May 1977	Executive agencies are to avoid, to the maximum extent practicable, long- and short- term adverse impacts associated with the destruction or modification of wetlands wherever there is a practical alternative	Requirements would have to be considered during the environmental impact review process if construction could impact any designated wetland. Location in a wetland must be avoided if a practicable alternative exists	State wetlands management agency, U.S. Fish and Wildlife may be consulted if appropriate; specific requirements promulgated at 40 CFR §6, Appendix A	Specific consultation requirements dependent on applicable requirements
Safe Drinking Water Act of 1974 (42	Establishes and enforces national drinking water	Consultation required if facility	Regional U.S. EPA, respective	Initial consultation

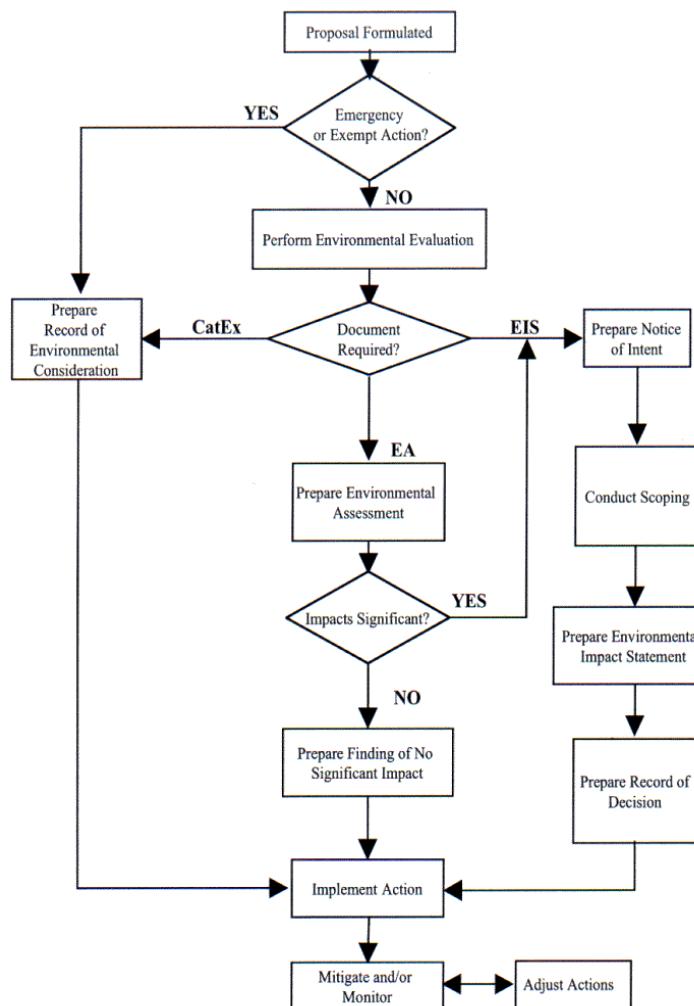
	U.S.C. §500 et seq.)	quality standards; protects underground drinking water sources	is to be constructed at or near an area of a designated sole, special, or principal drinking water aquifer	State Safe Drinking Water Act authorized agency; regional U.S. Geologic Survey	typically 30 to 45 days
	Resource Conservation and Recovery Act (42 U.S.C. § 6901-6993 et seq.)	Controls the siting and permitting of facilities that will treat, store and/or dispose of hazardous waste materials.	Siting requirements may have to be considered if facility will store hazardous wastes for greater than 90 days.	U.S. EPA, respective State RCRA authorized agency	Specific consultation requirements dependent on applicable regulations
	EO 12088, Federal Compliance with Pollution Control Standards, (amended by EO 12580) October 1978	Executive agencies are to comply with all applicable pollution control standards and requirements that would apply to a private person	Probably no impact on EA or EIS process; would impact facility design and operating plans	None	None
	EO 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, August 1993	Establishes applicability of Emergency Planning and Community Right to Know and the Pollution Prevention Act to all Federal facilities. Requires developing a pollution prevention strategy to achieve goal of 50% reduction in total releases of toxic chemicals by 2000 (12/31/99)	Probably no impact on EA or EIS process; would impact facility design and operating plans	None	None
	EO 12873, Federal Acquisition, Recycling, and Waste Prevention, October 1993	Executive agencies are required to implement affirmative procurement programs in accordance with Resource Conservation and Recovery Act §6002 regarding the acquisition of environmentally preferred products	Probably no impact on EA or EIS process; would impact facility design and operating plans	None	None
	EO 12902, Energy Efficiency and Water Conservation at Federal Facilities, March 1994	Requires Federal agencies to achieve 30% reduction in energy consumption and 20% increase in energy efficiency by 2005. Agencies are required to conduct comprehensive facility audits to identify the means to achieve the energy savings	Probably no impact on EA or EIS process; would impact facility design and operating plans	None	None
	EO 13148, Greening the Government Through Leadership in Environmental Management, April 2000	Requires Federal agencies to incorporate environmental management systems into agency day-to-day decisionmaking and long term planning processes. Pollution prevention is highlighted as a key aspect to the environmental management system processes. In addition, this EO incorporates the Presidential Memorandum for the Heads of Executive Departments and Agencies on Environmentally and Economically Beneficial Practices on Federal Landscaped Grounds dated August 22, 1994. It promotes the sustainable management of Federal facility lands through implementing cost-effective, environmentally sound landscaping practices, and programs to reduce adverse impacts to the natural environment.	Normally little impact on EA or EIS process; would impact facility design and operating plans	None	None
	Marine Mammal Protection Act of 1972 (16 U.S.C. §1361 et seq.)	Prohibits taking or harassment of any marine mammals except incidental taking during commercial fishing, capture under scientific research, harvest by Native Americans, and on case-by-case basis	Probably no impact on EA or EIS process; might impact facility design and operating plans	As appropriate	As appropriate
	Migratory Bird	Protects many birds, even	Might have impact	As appropriate	As appropriate

Treaty Act of 1972 (16 U.S.C. §703-711)	Some that may not individually migrate, by limiting transportation, importation, killing, or possession of those birds	Office of EIS process, facility design, and operating plans		
---	--	--	--	--

3.6.4 In some cases, completing the NEPA process can be a prerequisite to completing one or more other statutory environmental review requirements. For example, an agency is considering a proposed activity that under its NEPA regulations requires an EIS, and part of the proposed activity entails dredging and filling in a navigable body of water. The dredge and fill activity would require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (hereinafter referred to as the COE). Such a permit can require the COE to prepare an EA or EIS as a precondition. By agreement with the COE, the agency could incorporate the COE's NEPA requirements into its EIS, thus, satisfying both agencies' NEPA requirements. In this manner both agencies' NEPA compliance regulations can be completed without having to perform the processes in sequential order. 3.6.5 The NEPA process can also simplify compliance with other environmental mandates. For example, Clean Air Act permits are required before project construction or operation can begin. By integrating NEPA into the project planning process, these permit requirements would be identified early. The NEPA process, with its emphasis on analysis of alternatives, would assist planners in considering control techniques and strategies for Clean Air Act compliance. This analysis would benefit the air permit application process initiated later in the project cycle, potentially reducing the lead time needed to obtain the permits. 3.7 The NEPA Process 3.7.1 The following are three types or levels of NEPA process and documentation. a. Categorical Exclusion (CatEx)-documents proposed actions or activities that the agency has designated as normally having no significant impacts on the human environment; the decision is normally documented with a Record of Environmental Consideration (REC). b. EA-documents proposed actions or activities that may possibly have a significant impact on the human environment, but it is unclear. It is suggested that a decision to prepare an EA be concisely documented with a memorandum to file or a REC. An EA supports a decision whether or not to prepare an EIS. The analysis is ultimately documented with either a FONSI or an NOI to prepare an EIS. c. EIS-documents proposed actions or activities expected to have a significant impact on the quality of the human environment. An EIS describes the environmental impacts of the proposed action, the no-action alternative, and other reasonable alternatives. The process culminates in a decision that is documented by a ROD. d. These three levels of NEPA process and documentation are integral components of the overall NEPA process and are discussed individually in chapters 4, 5, and 6. 3.7.2 NASA regulations provide for a fourth primary NASA environmental document: the Environmental Resources Document (ERD). Each NASA Center must prepare and maintain an ERD to serve as a baseline description of all environmental aspects of Center operations at the time of the ERD's preparation (see chapter 9). 3.7.3 Background and Definitions 3.7.3.1 The basic objectives of the NEPA process are to protect and enhance the quality of the human environment through- a. Integrating environmental considerations into the planning of agency actions at the earliest practical stage, b. Ensuring that environmental as well as technical and economic considerations are weighed during decisionmaking before actions are taken, and c. Ensuring that the decisionmaker and the public are aware of the environmental consequences of proposed agency actions and that informed decisions are made. 3.7.3.2 In accomplishing these objectives, agencies are required to use a systematic, interdisciplinary approach to planning and decisionmaking (see Section 102(2)(A) of NEPA). The basic intent of the NEPA process is to determine if an agency's proposal is a major Federal action significantly affecting the quality of the human environment (40 CFR §1502.3). CEQ regulations define this terminology as follows- a. A proposal exists at a point in the planning process when an agency has a goal and is actively preparing to make a decision on one or more alternative actions to implement the goal (40 CFR §1508.23). A proposal exists at a stage in project or program development when the environmental effects can be meaningfully evaluated. This milestone often coincides with the end of the conceptual design or planning stage of project development. An environmental evaluation should be prepared in the project development phase (see section 3.4.2). b. The term Federal action includes, without limitation, NASA activities, operations, projects, and programs involving construction, rehabilitation, or modification of facilities; space flight projects; new or continuing research and development activities that have changed materially in scope; permits or agreements with other Federal, State, local, or private parties involving the use of NASA property, facilities, or services; joint participation with other parties in activities, operations, projects, and programs; purchase, sale, or transfer of property; closure of facilities; and funding other parties' activities. c. A major Federal action is a special form of Federal action, defined as an action that may have significant environmental effects and that is potentially subject to Federal control and responsibility (see 40 CFR §1508.18 and section 6.2 for examples). d. Federal actions include, but are not necessarily limited to, "new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by Federal agencies; new or revised agency rules, regulations, plans, policies or procedures; and legislative proposals." e. A major Federal action can exist when responsible officials fail to act, and that failure is subject to review by courts or tribunals under the Administrative Procedure Act or other applicable law as an agency action. Thus, a major Federal action is a Federal action that might have a significant effect on the environment. f. Significantly describes both the context and intensity of the effects or impacts a proposal can have on the human environment (40 CFR §1508.27). (1) Context means that an action must be analyzed in several contexts, such as society as a whole (human and national); the affected region; the affected locality; and the affected interests. Both short- and long-term effects should be considered. (2) Intensity refers to the severity of the impact(s), including beneficial and adverse impacts. Additional considerations include the degree of impacts on public health and safety; unique features of the area impacted (e.g., historic or cultural resources, wetlands, scenic rivers, and other protected resources); the degree to which the effects on the quality of the human environment are likely to be controversial; the degree of uncertainty in the impacts; and unique or unknown risks. (3) Intensity also includes the degree to which the action would set precedent for future actions with significant effects or represents a decision in principle about future actions. It also refers to whether the action is related to other actions with individually insignificant impacts that considered together would have cumulatively significant impacts. (4) Intensity also refers to whether the proposal could potentially threaten or violate a Federal, State, or local law or other environmental protection requirements. g. Affecting refers to the effects or impacts the proposal may or would have on the human environment (40 CFR §1508.3 and §1508.8) and includes the following: (1) Direct effects or impacts caused by the action occurring at the same time and place, and (2) Indirect effects caused by the action at a later time or at a place removed in distance from the action, but are reasonably foreseeable (e.g., boom town effects on a nearby local community or reduction in downstream fisheries from the project's waterborne effluents). h. Human environment is a comprehensive term that "includes the natural and physical environments and the relationship of people with that environment" (40 CFR §1508.14). Within this context, CEQ regulations further note that- (1) If social or economic effects are the only impacts of a proposed action, an EIS or an EA is not required, and (2) When social and/or economic impacts are interrelated to impacts on the natural and/or physical environments, they must be discussed in the EIS or EA. 3.7.3.3 Typical elements of the environment and categories of impacts considered in the NEPA process are noted in sample environmental evaluation checklists included in Appendix I. 3.7.4 How the NEPA Process Works 3.7.4.1 Referring to Figure 3-1, the nominal flow of the process begins when the proposal is formulated. The process is characterized by a number of decision points (e.g., is it an emergency or exempt action and what level of NEPA documentation is required). 3.7.4.2 Each major decision point should be documented for the administrative record, especially if the decision will lead to a less intensive NEPA process than normally required for a similar action. Written records of some type, such as internal memoranda, memoranda to file, or a REC, are recommended that indicate the decisions made and the factors that led to that decision. (A REC is a multifunction document that lends itself to this purpose.) a. If the proposal is to proceed with an action under emergency circumstances, normal NEPA rules do not immediately apply even if the action would result in significant impacts on the human environment. Under emergency circumstances, actions can proceed immediately. Through proper environmental planning, the need for "actions under emergency circumstances" status can be kept at a minimum. Special rules do apply, however, and are addressed in more detail in section 7.2. b. If the proposed action is exempt by law from NEPA requirements (e.g., judicial or administrative enforcement actions or Federal statute expressly excluding NEPA applicability), the action can proceed immediately. c. Classified actions or the classified portions of proposed actions are not exempt from NEPA; however, they are subject to special rules discussed in section 7.3. d. Excluding these special categories of actions, all other NASA proposals are subject to the normal flow of the NEPA process. 3.7.4.3 After a proposal is formulated, the Sponsoring Entity performs an environmental evaluation in consultation with the local EMO. An environmental evaluation is a preliminary review that determines aspects of the proposal likely to result in some level of environmental impact or that are of potential concern. The environmental evaluation also assists in determining the appropriate level of NEPA documentation (i.e., CatEx, EA, EIS) for the proposal. Using a comprehensive checklist is highly recommended because it can provide structure and a level of rigor to this early evaluation of the proposal, helping to ensure that

pertinent considerations are not overlooked (see Appendix I for examples of environmental evaluation checklists presently used by NASA facilities). a. The Sponsoring Entity may decide to go directly to an EA or EIS review if it is known that environmental impacts will occur, or simply that the planning and decisionmaking process would benefit from a more detailed NEPA review. It is recommended that this decision be concisely documented with a memorandum for file or a REC.

Figure 3-1. The NEPA Process



b. If the proposal qualifies for a CatEx, a REC is prepared documenting the determination, and the proposed action can proceed. CatEx actions should be monitored to determine if any changes occur requiring further NEPA review (see chapter 4 for details of the CatEx process). c. If a CatEx is not appropriate to the proposal, then either an EA or EIS applies; it is suggested that either decision be documented. d. A number of initial planning and scoping activities are initiated for proposals requiring an EA or EIS. These include, but are not necessarily limited to, the following: (1) The need for and/or purpose of taking an action is identified and defined, (2) An alternatives analysis is initiated to determine reasonable alternatives to the proposed action that will be evaluated in the EA or EIS (see section 3.7.5), (3) Key environmental issues associated with the action are also identified and the means to address those issues determined, (4) Other applicable environmental review requirements that may need to be integrated into the EA or EIS are identified (see section 3.6), (5) The need for or desirability of a cooperating agency(s) is determined (see section 7.16), (6) A list of potentially affected or interested agencies, organizations, Indian tribes, and individuals is developed to support the public involvement process, and (7) A public involvement plan is developed consistent with the requirements of the EA or EIS process, the level of potential controversy associated with the action, the scope of the action (local or national), and magnitude of the potential environmental impacts (see section 3.5). 3.7.4.4 If the action normally requires an EA or if it is unclear that significant impacts would ensue, an EA is prepared. An EA evaluates the proposed action and alternatives to determine if significant impacts to the human environment would occur, thus, necessitating preparation of an EIS (see chapter 5 for details of EA preparation). The following items illustrate decision points in the EA process. a. If an EA presents information that indicates significant impacts to the human environment would occur, an NOI to prepare an EIS is prepared and published, which initiates the EIS process (see chapter 6). b. If no significant impacts would occur, the finding or decision to proceed is documented in a FONSI, and the FONSI is published (chapter 5). The action can proceed contingent upon employing impact mitigation measures found necessary or prudent and committed to in an EA and FONSI. Implementation of mitigation is monitored. Section 7.10 discusses mitigation that eliminates the need to issue an EIS (i.e., a mitigative FONSI). c. The amount of preparation time needed to complete an EA averages around 6 months; depending on complexity, it can range up to 18 months. 3.7.4.5 If the action normally requires an EIS, a detailed EIS addressing the proposed action and the range of reasonable alternatives is prepared (see chapter 6 for details of EIS preparation). An EIS requires the most detailed analyses of any NEPA documentation. a. Following preparation of an EIS, a ROD is issued before taking final action on the proposal. The ROD is followed by implementing any mitigation measures committed to in the EIS and ROD. During implementation, the project is monitored for any changes that could merit further NEPA review or revised mitigation measures. b. It takes an average of 12 to 18 months to complete an EIS. However, it can take significantly longer if controversial activities are involved or the environmental analysis techniques are complex. 3.7.5 Alternatives Analysis 3.7.5.1 Alternatives analysis lies at the core of the NEPA process and compliance. It is an essential element in planning and preparing EA's and EIS's to enhance decisionmaking. Alternatives, including the No-Action alternative, must be evaluated alongside the proposed action in EA's and EIS's. Additional analysis of alternatives may be required by another environmental statute or mandate (e.g., National Historic Preservation Act) or EO (e.g., EO 11988, Floodplain Management) that applies to the proposed action or alternatives being considered. 3.7.5.2 Within the NEPA process, there are only two instances when alternatives do not need to be considered: actions qualifying for a CatEx and actions exempt from NEPA by law. 3.7.5.3 NEPA and CEQ regulations require that the alternatives considered in detail in the NEPA process be reasonable. To be considered reasonable, alternatives must be-- a. Technically feasible and capable of

accomplishing the purpose and need, b. Economically feasible, not requiring the agency to expend exorbitant funds to develop or implement, and c. Available within the timeframe of the action; specifically, a reasonable alternative is not speculative or potentially available at some indeterminate point in the future. 3.7.5.4 CEQ regulations require consideration of the No-Action alternative in all EA's and EIS's. a. The No-Action alternative is defined as no change from existing conditions (i.e., continuing rather than modifying existing programs or activities). b. The No-Action alternative can also mean that the proposed action would not take place and the purpose and need to be met by the proposal would not be accomplished. c. The No-Action alternative does not necessarily equate to no environmental impacts. While in many cases, the No-Action alternative may mean precisely that (e.g., do not construct a proposed building, thus, no land clearing, no dust generation, and no noise), in other cases, taking no action (e.g., deciding not to replace old underground storage tanks) may well entail adverse environmental impacts (e.g., future tank failures with resulting groundwater contamination). 3.7.5.5 The range of alternatives that needs to be considered in the two types of documents differ. For example, in an EIS, a reasonable alternative can consist of an action not within the agency's jurisdiction. 3.7.6 Mitigation Measures 3.7.6.1 In implementing the decision, mitigation measures committed to in NEPA documentation (e.g., FONSI, ROD, or REC) must be instituted in a timely manner. Mitigation is often an integral part of preparing an EA or EIS. Mitigation includes measures taken to avoid or reduce the impact of a proposed action or alternatives to the proposed action. Mitigation guidance is provided in CEQ regulations 40 CFR §1502.14(f), §1503.3(d) and §1508.20. CEQ regulations (40 CFR §1508.20) define mitigation as-- a. Avoiding the impact entirely by not taking the action or certain parts of the action (e.g., relocating an activity to an existing facility to avoid construction impacts), b. Minimizing the impacts by limiting the degree or magnitude of the action and its implementation (e.g., planning construction during a time of year sensitive species are not nesting onsite), c. Repairing, rehabilitating, or restoring the affected environment (e.g., reggrading to natural contours and reseeding after construction), d. Reducing or eliminating the impact over time by preservation and maintenance operations during implementation (e.g., dust control measures and restricting extremely heavy truck deliveries to the site during winter), and b. Compensating for the impact by replacing or providing for substitute resources or environments (e.g., creating new wetlands to compensate for filling existing wetlands). 3.7.6.2 Thus, mitigation can take a variety of forms. It can be an integral part of the proposed action or alternatives, or developed after the environmental consequences analysis indicates a need for mitigation. Mitigation measures, or a summary thereof, should be listed in a FONSI or a ROD. Mitigation measures associated with a proposed action or an alternative become a commitment and must be implemented in a timely manner when the chosen action is taken. If mitigation measures cannot be implemented for an exceptional action EA (see sections 5.5 and 5.7) or an EIS (see section 6.6), the local EMO will contact HQ/EMD promptly for resolution. 3.7.6.3 Mitigation to avoid an environmental impact, as well as mitigation measures that reduce an impact to nonsignificance, can make the difference in being able to support a FONSI. In the case of an EIS, mitigation can make the difference in the magnitude of environmental impacts or the alternative chosen for implementation. 3.7.6.4 All actions subject to NEPA review should be monitored during implementation. The nature and level of monitoring should be tailored to the nature and level of potential environmental impacts. Monitoring the action is necessary because-- a. Implementation of the action may reveal environmental impacts not anticipated in the EA or EIS (or occasionally, even in implementation of a CatEx), b. Conditions may change so that the mitigation measures are not having the anticipated effect in reducing the severity of impacts, or c. New information may arise during implementation of the action that has a bearing on the perceived significance of the impacts. 3.7.6.5 Monitoring the action is intended to detect these conditions. The mitigation measures may need to be modified and/or further NEPA documentation may need to be prepared, such as a supplemental EIS, a revised EA or FONSI, or a revised ROD (see section 7.10). Modifications to mitigation measures that may be needed to keep impacts within the bounds described in an EA or EIS should be documented in a REC, with justification provided for the change. Following changes, NASA's obligation to continue monitoring the action does not diminish. 3.7.7 Administrative Record 3.7.7.1 The administrative record is a common thread throughout the entire NEPA process. The Sponsoring Entity is responsible for developing and maintaining the administrative record. This record consists of the documents generated leading up to and during: CatEx determination; EA preparation, including the FONSI (or the NOI); EIS preparation, including the ROD; and documents generated due to monitoring an action that are related to a decision to prepare additional NEPA documentation or revised mitigation measures. 3.7.7.2 The administrative record documents the decisionmaking process and forms the basis for defense against any challenges that may arise regarding the NEPA process and agency compliance. As such, the administrative record is subject to the Freedom of Information Act and formal discovery pursuant to administrative or judicial proceedings. The administrative record should include, but is not limited to the following: a. Public comments received during the process, b. Official agency comments (other Federal, State, local), c. Underlying studies and reports used to prepare the NEPA document, d. Environmental surveys and field study results, e. Copies of publicly distributed notices (e.g., newspaper notices and meeting notices), f. Location of NEPA-related documents referenced in the subject NEPA document, g. Maps and charts, h. Interagency official consultation records, i. List of non-NASA persons consulted (only those personal contacts for which there is written documentation contemporaneous with the consultation are relevant), j. Mailing list, and k. Location of references used in the subject NEPA document. 3.8 NEPA Noncompliance 3.8.1 Compliance with NEPA is subject to judicial review. It is imperative that NEPA procedural requirements be satisfied. Table 3-3 describes six potential pitfalls that may lead to noncompliance. 3.8.2 Failure to comply with NEPA can result in the program or project being slowed down or stopped until the NEPA process and documentation is completed, thereby adding delay, costs, and potentially jeopardizing a program or project. With successful completion of the NEPA process, the program or project can proceed on its normal course. 3.8.3 In the event of a successful court challenge, time is lost and resources are expended in dealing with the court action, schedules may be delayed, and programs or projects are put on hold until the NEPA process has been satisfactorily completed. 3.9 Deviations from NASA Regulations 3.9.1 NASA has provided for deviations from its NEPA regulations when good and valid reasons exist. When a Sponsoring Entity sees the need for a deviation from NASA or CEQ regulations for its program or specific project, the Sponsoring Entity must immediately notify HQ/EMD with respect to the proposed deviation and supply the supporting justification. In no instance shall notification to HQ/EMD occur after implementing the deviation. Table 3-3. Potential Pitfalls of Noncompliance

NEPA Noncompliance	Potential Concerns/Results
Ignoring NEPA completely	Very likely to lead to adverse court judgment, if challenged
Failing to satisfy procedural requirements	As a procedural statute, the steps are clearly outlined in NEPA implementing regulations. Failure to complete all the procedural requirements of the NEPA process is a primary cause for adverse judicial judgments.
Deciding on a course of action or effectively foreclosing alternatives before the NEPA process is complete	When an agency lets the process of planning an action precede the NEPA process, NEPA becomes essentially a tool justifying prior or de facto decisions. This occurs when the obligation for NEPA compliance occurs too late or by inadvertently making hard commitments that limit the choice of alternatives or essentially drive the agency to choose a particular alternative. Hard commitments can include activities such as building or purchasing major long lead time components of a project (e.g., turbines); establishing design or operating requirements that essentially preordain that a particular alternative be chosen; or building foundations before the EA and FONSI are completed to support the new facility construction.
Faulty or weak technical analysis	Can lead to erroneous conclusions regarding important environmental impacts. Can lead to faulty decisions successfully challenged in court.
Failure to evaluate reasonable alternatives	Alternatives must be examined under NEPA, and they must be reasonable (see section 3.7.5). Further, a range of reasonable alternatives must be examined in an EIS; a

<p style="text-align: center;">Return to do 8580-1 or the most current version for this document.</p> <table border="1"><tr><td style="width: 15%; padding: 5px; vertical-align: top;">Segmentation</td><td style="width: 85%; padding: 5px; vertical-align: top;">When an agency subdivides a proposed action into component parts, and applies NEPA to each part individually. The net result is that each part is judged as having no significant impacts. If the proposed action had been analyzed as a whole, the combined impacts of those individual parts may have been found to have a significant impact. Defining the proposed action is an important part of the NEPA process, and it is discussed in more detail in chapters 5 and 6.</td></tr></table> <p style="text-align: center;">3.9.2 If the Sponsoring Entity seeks a deviation from CEQ regulations, HQ/EMD in coordination with the Office of the General Counsel will begin consultation with CEQ. HQ/EMD, AAMS, and the Office of the General Counsel are the only appropriate NASA points-of-contact with CEQ. 3.9.3 If the deviation is sought only from NASA regulations, the deviation may be approved by HQ/EMD. If that proposed deviation is substantial, HQ/EMD will consult with and obtain the concurrence of the Office of the General Counsel and may seek the views of CEQ after coordination with the Office of the General Counsel.</p> <p style="text-align: center;">TOC Preface Chp1 Chp2 Chp3 Chp4 Chp5 Chp6 Chp7 Chp8 Chp9 Chp10 Chp11 Chp12 Chp13 AppdxA AppdxB AppdxC AppdxD AppdxE AppdxF AppdxG AppdxH AppdxI AppdxJ AppdxK AppdxL ALL </p> <p style="text-align: center;"> NODIS Library Program Management(8000s) Search </p> <p style="text-align: center;"><u>DISTRIBUTION:</u> <u>NODIS</u></p> <table border="1" style="width: 100%;"><tr><td style="padding: 5px; text-align: center;">This Document Is Uncontrolled When Printed. Check the NASA Online Directives Information System (NODIS) Library to Verify that this is the correct version before use: http://nodis3.gsfc.nasa.gov</td></tr></table>							Segmentation	When an agency subdivides a proposed action into component parts, and applies NEPA to each part individually. The net result is that each part is judged as having no significant impacts. If the proposed action had been analyzed as a whole, the combined impacts of those individual parts may have been found to have a significant impact. Defining the proposed action is an important part of the NEPA process, and it is discussed in more detail in chapters 5 and 6.	This Document Is Uncontrolled When Printed. Check the NASA Online Directives Information System (NODIS) Library to Verify that this is the correct version before use: http://nodis3.gsfc.nasa.gov
Segmentation	When an agency subdivides a proposed action into component parts, and applies NEPA to each part individually. The net result is that each part is judged as having no significant impacts. If the proposed action had been analyzed as a whole, the combined impacts of those individual parts may have been found to have a significant impact. Defining the proposed action is an important part of the NEPA process, and it is discussed in more detail in chapters 5 and 6.								
This Document Is Uncontrolled When Printed. Check the NASA Online Directives Information System (NODIS) Library to Verify that this is the correct version before use: http://nodis3.gsfc.nasa.gov									

2 Space, Aeronautics, and Technology Human Space Flight